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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,681	09/23/1999	FREDRIC S. YOUNG	17003-23-00U	4988

7590 11/06/2002

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EXAMINER
CRAIG, DWIN M

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/401,681	Applicant(s) YOUNG, FREDRIC S.	
	Examiner Dwin M Craig	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 9-23-99 .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 9-23-99 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-10 have been presented for examination. Claims 1-10 have been examined and rejected.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal Drawings will be required when the application is allowed. The drawings filed on 9-23-1999 are acceptable subject to correction of the formalities listed in the attached "Notice of Draft person's Patent Drawing Review," PTO-948.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1–2, 4, 5, 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carpenter et al. U.S. Patent 5,311,601** in view of **Thalhammer-Reyero U.S. Patent 5,930,154.**

The *Carpenter et al.* reference discloses, a method of simulating a dynamic system **Figures 17a, 17b, 18a-c 19a-c, 20a-c, 22a-c, and 23a-c, Col. 5 Lines 5-7, Col. 16 Lines 32-47,** with a plurality of interacting nodes **Col. 24 Lines 54-67 and Col. 25 Lines 1-13, Col. 4 Lines**

4-9, Figures 1-5, 14a-b, 15a-b, 16, in a network **Figures 1-5 and 16,** comprising nodes, each node having at least one input **Figure 2a-d, Col. 2 Lines 3-31,** at least one output **Figure 1, 2a-d and Col. 2 Lines 31-56,** at least one transformation of inputs and at least one transformation of outputs, **Figures 1-5 and Col. 22 Lines 56-67,** a measurable ratio of input transformation rate to output transformation rate **Col. 11 Lines 34-61,** at least a first activated state corresponding to an excess measurable ratio of input to output, at least a second activated state corresponding to a deficit measurable ratio of input to output, and transient storage of a product of the input, **Col. 24 Lines 1-67 and Col. 25 Lines 1-62 and Col. 26 Lines 1-62.**

The *Carpenter et al.* reference does not explicitly disclose, a computer system, wherein each node of interest defining a balanced state between a first and second activated state, and a balanced state corresponding to a zero error between a measurable ratio and a pre-established balanced ratio, corresponding to a mathematical critical point in thermodynamic energy.

The *Thalhammer-Reyero* reference discloses, a computer system, **Col. 1 Lines 64-67 and Col. 2 Lines 1-16 and Col. 47 Lines 4-9,** wherein each node of interest defining a balanced state between a first and second activated state, and a balanced state corresponding to a zero error between a measurable ratio and a pre-established balanced ratio, corresponding to a mathematical critical point in thermodynamic energy **Col. 13 Lines 27-67 and Col. 14 Lines 1-56.**

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Carpenter et al.* reference with the *Thalhammer-Reyero* reference because the additional ability to model higher level of complexity allows for a complete representation of complex systems, *see the Thalhammer-Reyero reference* ***Col. 2 Lines 47-60.***

As regards Claim 2, the *Carpenter et al.* reference teaches each node of interest sensing for non-zero error between a measured value and a pre-established value, using the non-zero error as a control signal to mediate at least one of the inputs /outputs and an external process, **Figures 1-5, 8-9, Col. 11 Lines 6-61 and Col. 18 Lines 60-67 and Col. 19 Lines 1-5.**

As regards Claim 4, the *Carpenter et al.* reference teaches each node being representative of a non-living system **Col. 1 Lines 15-33,** and an error signal is an indication of imbalance in energy distribution **Col. 11 Lines 19-35**.

As regards Claim 5, the *Carpenter et al.* reference teaches pathways between first nodes to second nodes, **Figures 2a-d.**

As regards Claims 7 and 9, Official Notice, the concept of feedback in any simulation is old and well know in the art.

As regards Claim 8, the *Carpenter et al.* reference does not expressly disclose a critical point is selected for maximum stability of said balanced state.

The *Thalhammer-Reyero* discloses a critical point is selected for maximum stability of said balanced state, **Col. 13 Lines 61-67 and Col. 14 Lines 1-8.**

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Carpenter et al.* reference with the *Thalhammer-Reyero* reference because the additional ability to model higher level of complexity allows for a complete representation of complex systems, *see the Thalhammer-Reyero reference* ***Col. 2 Lines 47-60.***

4. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Carpenter et al. U.S. Patent 5,311,601** in view of **Thalhammer-Reyero U.S. Patent 5,930,154** and in further view of **Bush et al. U. S. Patent 6,323,218.**

The limitations of **Claims 1 and 2** have been already been rejected by the examiner, *see examiners rejection paragraph 3 above.*

The *Carpenter et al.* reference does not explicitly disclose each node representing a living organism or an error signal that provides an input to a regulating element for regulation to a condition of homeostasis.

The *Bush et al.* reference discloses living organisms, **Col. 2 Lines 38-47,** an error signal that provides an input to a regulating element for regulation to a condition of homeostasis **Col. 55 Lines 43-63**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Carpenter et al.* reference with the *Bush et al.* reference because, as described in the *Bush et al.* reference describing the homeostasis of a living system my contribute a significant factor in developing a treatment for Alzheimer's Disease and therefore is required for any useful model of cellular activity.

5. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Carpenter et al. U.S. Patent 5,311,601** in view of **Thalhammer-Reyero U.S. Patent 5,930,154** and in further view of **Zandi et al. U.S. Patent 5,867,602.**

The limitations of **Claims 1 and 2** have been already been rejected by the examiner, *see examiners rejection paragraph 3 above.*

The *Carpenter et al.* reference does not explicitly disclose depicting each said four dimensional model in five orthogonal dimensions of space, time and greyscale, said greyscale representing a mapping from a second temporal dimension.

The *Zandi et al.* reference discloses depicting each said four dimensional model in five orthogonal dimensions of space, time and greyscale, said greyscale representing a mapping from a second temporal dimension **Figure 20-26 and Col. 1 Lines 35-59 and Col. 5 Lines 65-67 and Col. 6 Lines 1-3 and Col. 26 Lines 55-62**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Carpenter et al.* reference with the *Zandi et al.* reference because superior lossless compression performance is improved when displaying a multi-dimensional model using the techniques disclosed in the *Zandi et al.* reference **Col. 47 Lines 35-67 and Col. 48 Lines 1-67 and Col. 49 Lines 1-44.**

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwin M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 9:00 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

DMC
October 29, 2002